



AF/1755

PATENT
Customer No. 22,852
Attorney Docket No. 01222.0034-01

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:)
David A. RUSSO et al.) Group Art Unit: 1755
Application No.: 09/287,664) Examiner: D. Brunsman
Filed: April 7, 1999)
For: COATING COMPOSITION FOR)
GLASS)

Commissioner for Patents
Washington, DC 20231

Sir:

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TRANSMITTAL OF APPEAL BRIEF (37 C.F.R. 1.192)

Transmitted herewith in triplicate is the APPEAL BRIEF in this application with respect to the Notice of Appeal filed on November 4, 2002.

This application is on behalf of

☐ Small Entity ☒ Large Entity

Pursuant to 37 C.F.R. 1.17(f), the fee for filing the Appeal Brief is:

☐ \$160.00 (Small Entity)

☒ \$320.00 (Large Entity)

TOTAL FEE DUE:

Notice of Appeal Fee \$

Extension Fee (if any) \$

Total Fee Due \$320.00

☒ Enclosed is a check for \$320.00 to cover the above fees.

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PETITION FOR EXTENSION. If any extension of time is necessary for the filing of this Appeal Brief, and such extension has not otherwise been requested, such an extension is hereby requested, and the Commissioner is authorized to charge necessary fees for such an extension to our Deposit Account No. 06-0916. A duplicate copy of this paper is enclosed for use in charging the deposit account.

FINNEGAN, HENDERSON, FARABOW,
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Dated: December 30, 2002

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Customer No. 22,852
Attorney Docket No. 01222.0034-00-100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 C.F.R. § 1.192

Appellant submits the following brief in triplicate, accompanied by the fee required by 37 C.F.R. § 1.17(c). The brief sets out the authorities and arguments on which appellants will rely to maintain the appeal.

Real Party Interest

The inventors assigned the parent application Serial No. 104,125, filed December 13, 1993 to Elf Atochem North America, Inc., and submitted the assignment for recording on December 16, 1993. Elf Atochem North America, Inc. changed their name to Atofina Chemicals, Inc. on June 19, 2000, who recorded the name change on June 25, 2000 at Reel 011007,

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Frame 0001, making Atofina Chemicals, Inc. the real party in interest. The application issued as Russo et al., U.S. Patent No. 5,401,305 (the "reissue patent") which forms the basis for the present reissue application

Related Appeals and Interferences

Appellants have a co-pending appeal before the Board of Patent Appeals and Interferences in the following related application:

Serial No. 09/544,212

Filed October 17, 1995

Status Of Claims

The Examiner allowed claims 1-27, but maintained the rejection of claims 28-32 in his Final Rejection of June 4, 2002. Appellants have appealed the rejection of the unallowed claims.

Status Of Amendments

Appellants amended claim 31 in response to the Final Rejection, but the Examiner, in his October 29, 2002 Advisory Action, refused to enter the amendment.

Summary Of Invention

The invention of the claims on appeal comprises a process for providing an oxide composition, which if coated on glass, causes the glass to exhibit specific properties such as, e.g., controlled refractive index, abrasion resistance, color enhancement, low emissivity, selective light filtration, and anti-iridescence on flat-glass substrates.

(Reissue patent, col. 4, lines 13-18)

The invention employs a mixture which includes at least one precursor for a metal oxide, selected from tin, germanium, titanium, aluminum, zirconium, zinc, indium, cadmium, hafnium, tungsten, vanadium, chromium, molybdenum, iridium, nickel and tantalum. The mixture may include a precursor for silicon dioxide. The mixture further includes one or more additives selected from the group consisting of phosphites, borates, water, alkyl phosphine, arsine and borane derivatives; PH_3 , AsH_3 and B_2H_6 ; and O_2 , N_2O , NF_3 , NO_2 and CO_2 . The additives are termed "accelerants" herein; the accelerants serve to increase the rate of deposition of the film onto the glass from the mixture. The mixture of precursors and additives is gaseous under the conditions of application required to produce the coated-glass article; the reaction of the materials in the gaseous mixture with atmospheric or added oxygen provides the corresponding oxides. (Reissue patent, col. 4, lines 21-40)

Precursors for deposition of metal oxides include, e.g., aluminum alkyls and alkoxides, cadmium alkyls, germanium halides and alkoxides, indium alkyls, titanium halides, zinc alkyls, and zirconium alkoxides. Specific examples of such compounds include, e.g., $\text{Al}(\text{C}_2\text{H}_5)_3$, CrO_2Cl_2 , GeBr_4 , $\text{Ti}(\text{OC}_3\text{H}_7)_4$, TiCl_4 , TiBr_4 , $\text{Ti}(\text{C}_5\text{H}_7\text{O}_2)_4$, $\text{Zr}(\text{OC}_5\text{H}_9)_4$, $\text{Ni}(\text{CO})_4$, VCl_4 , $\text{Zn}(\text{CH}_3)_2$, $\text{Zr}(\text{C}_5\text{H}_9\text{O})_4$, and the like. (Reissue patent, col. 4, lines 46-53)

Tin precursors include those described by the general formula $\text{R}_n\text{SnX}_{4-n}$, where R is independently chosen from straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or $\text{R}'\text{CH}_2\text{CH}_2-$, where R' is $\text{MeO}_2\text{C}-$, $\text{EtO}_2\text{C}-$, $\text{CH}_3\text{CO}-$, or $\text{HO}_2\text{C}-$; X is selected from the group consisting of halogen, acetate, perfluoroacetate, and their mixtures; and where n is 0, 1, or 2.

Preferred precursors for tin oxide in the article of this invention are the organotin halides.
(Reissue patent, col. 4, lines 54-63)

Precursors for silicon oxide include those described by the general formula $R_mO_nSi_p$, where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbons, and phenyl or substituted phenyl. Preferred precursors for silicon oxide include tetraethylorthosilicate, diacetoxydi-t-butoxysilane, ethyltriacetoxysilane, methyl-triacetoxysilane, methyldiacetoxysilane, tetramethyldisiloxane, tetramethylcyclotetrasiloxane, dipinacoloxysilane, 1,1-dimethylsila-2-oxacyclohexane, tetrakis (1-methoxy-2-propoxy) silane, and triethoxysilane. (Reissue patent, paragraph bridging cols. 4 and 5)

Suitable accelerants include phosphite and borate derivatives of the general formula $(R''O)_3P$ and $(R''O)_3B$, where R'' is independently chosen from straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or $R'''CH_2CH_2-$, where R''' is MeO_2C- , EtO_2C- , CH_3CO- , or HO_2C- ; R'' is preferably alkyl or alkenyl of from 1 to 4 carbons in length. Particularly preferred accelerants are those selected from the group consisting of boron and phosphorus esters; most preferred are TEB and TEP. (Reissue patent, col., lines 9-19)

Issues

The issues on appeal are:

1. Whether, contrary to 35 U.S.C. § 251, broadened reissue claims 28-31 improperly recapture subject matter allegedly surrendered in the

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prosecution of the application for the reissue patent.

2. Whether claims 28-32 are unpatentable under 35 U.S.C. §103(a) over the combined teachings of Lagendijk, United States Patent No.5,028,566 in view of Gordon United States Patent No.4,308,316.

(7)

Grouping Of Claims

Claims 28-32 do not stand or fall together. Appellant will demonstrate the separate patentability of the claims in the subsequent Argument.

(8)(a) Argument

The Rejection Under 35 U.S.C. § 103(a) and Traverse

The Examiner rejects claims 28-32 under 35 U.S.C. §103(a) as unpatentable over Lagendijk in view of Gordon. The Examiner, in referring to Example 4 of Lagendijk, argues the disclosed CVD source of "TMCTS (a silicon oxide precursor), trimethylphosphite and an oxygen source" exemplify the prior art, with the difference "between the prior art and the instant claims . . . [being] the inclusion of a metal oxide other than silicon oxide." June 4, 2002 Office Action, p. 2, last par.). The Examiner then cites "claims 4-14" of Gordon showing various metal oxide and silicon oxide precursors to support his argument that the skilled artisan would combine the teachings of Gordon with Lagendijk to come up with appellants' invention of using an accelerant such as a

phosphite in combination with a metal oxide precursor in a CVD coating process.

In the first instance, the teaching by Lagendijk of a phosphite with a silicon oxide precursor would not suggest to the skilled artisan the use of a phosphite with a metal oxide precursor in a CVD coating process since silicon is not a metal as the Examiner contends.¹ Secondly, claims 4-14 of Gordon do not relate to the various metal oxide-silicon oxide precursors the Examiner describes. If, however the Examiner intended "examples 4-14" which show metal oxide-silicon oxide precursors, the skilled artisan still would not find any motivation to combine that teaching with Lagendijk, again, because Lagendijk used the phosphite with a non-metal, viz. silicon, in a CVD coating process. Lastly, Lagendijk does not disclose the phosphite of Example 4 as an "accelerant," but rather as a "dopant." The Examiner has not shown why a skilled artisan looking for an accelerant for a CVD coating process would combine the dopant teachings of Gordon with Lagendijk.

Rejected claims 28-32 require an accelerant based on either an organic phosphite, organic borate or water which the Gordon reference neither teaches nor suggests. In fact, Gordon teaches the undesirability of water, cautioning against it in example 2, which shows water causes an undesirable reaction with an organoaluminum compound, e. g., (aluminum-2, 4-pentanedionate).

In view of the Example 2 disclosure of Gordon, the skilled artisan would have an additional reason for not combining the teachings of Gordon with Lagendijk. The adverse results with water would suggest to a skilled artisan that disclosure of ancillary

¹ The Examiner in his October 29, 2002 Advisory Action (p.2) argues that Gordon "establishes that one of ordinary skill in the CVD art considers Si a metal." The Examiner, however, has not pointed to any part of the Gordon reference that supports this position. Appellants have reviewed the Gordon reference and find nothing in it that

compounds in CVD coating processes in this art would not carry the implication that they would benefit any coating process, but rather, each candidate for evaluation as an adjuvant would require separate testing before they could draw any conclusion about its suitability in the process. The example 2 results of Gordon eliminate any motivation for the skilled artisan to combine the teachings of the two references. Cf., M.P.E.P. Section 2143.01, Rev. 1, Feb. 2000, pp. 2100-98 to 2100-99 and cases cited therein. Gordon, in fact, teaches against this combination of references.

Appellants do not claim that the prior art does not describe processes such as CVD oxidation to obtain oxide coatings, but rather appellants' use of unobvious starting materials in the process amounts to a patentable invention, as the Court of Appeals for the Federal Circuit decided in In re Ochiai, 77 F.3d 422, 37 U.S.P.Q. 1127 (Fed.Cir. 1995), i.e., the unobvious starting materials lend patentability to the claims.

The Rejection Under 35 U.S.C. § 251 And Traverse

The Examiner rejected claims 28-32 under 35 U.S.C. § 251 as improperly recapturing broadened claim subject matter surrendered in the application for the reissue patent. In the paragraph immediately preceding the Examiner's rejection of the claims under 35 U.S.C. § 103 the Examiner stated "[t]he issue of recapture with respect to the new categories of invention (see M.P.E.P. § 1412.03) filed with the reissue need not be resolved unless those claims are limited to the particular precursor compositions of the patented claims." (June 4, 2002 Office Action, p. 2, par. 3). Appellants believe this part of the Office Action referred to the recapture issue the Examiner subsequently raised, and in order to address it, will summarize the claims as follows in order to analyze this position taken by the Examiner.

shows the skilled artisan considers silicon a metal.

The reissue patent contains claims 1-27 directed to a process for manufacturing an oxide composition by oxidizing a silicon oxide precursor and a tin oxide precursor in the presence of an accelerant. Reissue claims 28-32 also relate to a process for manufacturing an oxide, describing the oxide generally as a metal oxide, and in subsequent claims, manufacturing the oxide from specific metal oxide precursors, the option of including a silicon oxide precursor in the process, but in all instances, the inclusion of an accelerant.

Appellants point out M.P.E.P. § 1412.03 referred to by the Examiner does not relate to issues of recapture but rather criteria for determining whether appellants have submitted broadened reissue claims. The new categories of invention as set out in claims 28-32 meet these criteria of broadened reissue claims since they include "subject matter not covered by the patent claims." (M.P.E.P. § 1412.03, p.1400-16, August 2001).

The Examiner then rejected 28-32 on grounds of improper recapture of broadened claim subject matter surrendered in the reissue patent, but did not articulate how or where appellants surrendered this broadened claimed subject matter. He also cited three decisions of the Court of Appeals for the Federal Circuit to support his recapture argument, however, did not show how those cases applied to the facts or claims of the present application, other than to conclude claims 28-32 allegedly recaptured subject matter appellants surrendered in the prosecution of the reissue patent. (June 4, 2002 Office Action, p. 2, first full par.)

For Example, the Examiner cited Hester Industries, Inc. v. Stein, Inc., 142 F. 3d 1472, 46 U.S.P.Q. 2d 1641 (Fed. Cir. 1998) which held that arguments made during the

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prosecution of an application to distinguish features of the prior art prevented the appellant from claiming those features in a reissue patent, but he has not identified any arguments appellants made in the prosecution of the reissue patent that bear on the claims of the reissue application.

The other two cited cases, In re Clement, 131 F. 3d 1464, 45 U.S.P.Q. 2d 1161 (Fed. Cir. 1997, and Ball Corp. v. United States 729 F. 2d 1429, 1436, 221 U.S.P.Q. 289, 295 (Fed. Cir. 1984) generally stand for the proposition that a reissue appellant cannot recapture subject matter given up in a parent application in response to a prior art rejection in order to obtain allowance. The Examiner, however, has not shown where the appellants gave up subject matter by amending the reissue patent in response to a prior art rejection and now try to recapture it in this reissue application. The amendments in the reissue patent addressing the silicon oxide precursor rejection did not apply to the new category of metal oxide precursors presented in the reissue claims, since the Examiner did not reject the metal claims in the reissue patent. Appellants also point out that any statements about silicon in the reissue patent prosecution did not carry over to the metals since silicon is not a metal.

The principle that controls the prosecution of the present reissue application, however, holds that where the prosecution history shows that prior art did not motivate an amendment, and the record does not show that the patentee's conduct amounts to an admission that the reissue claims would not be patentable without the specific limitations of an amendment, recapture does not apply. A claim amendment responsive to an indefiniteness rejection and not a prior art rejection precludes application of the recapture doctrine based on deliberate surrender. In re Wesseler, 367 F. 2d 838, 847,

151 U.S.P.Q. 339, 346-47 (C.C.P.A. 1966). The court in Wessler found that an indefiniteness rejection led to the inclusion of an element in the claims by amendment, not a rejection over prior art, even though the Examiner made a prior art rejection. The court ruled that in the absence of facts showing that the inclusion of the omitted limitations was required to avoid the prior art, the recapture principle of deliberate surrender based on the Supreme Court's prosecution history estoppel analysis in Shepard v. Carrigan, 116 U.S. 593, 597, 6 S. Ct. 493, 495 29 L.Ed. 723 (1886), was not applicable. The court stated:

Here, however, there is no objection to the appealed [reissue] claims based on prior art. We do not think the statement in Shepard, arising from the facts therein stated, is applicable here. Shepard may be support for the rule that one who deliberately adds a limitation to avoid the prior art cannot omit that limitation in reissue claims so as to encroach upon the prior art, but that is not the situation here. . . .

Id. 367 F. 2d at 849, 151 U.S.P.Q. at 348 (emphasis added). In view of other portions of the prosecution history showing that the patentee did not intend to abandon coverage of its invention without the omitted limitation, the court concluded the appellants could correct the error by reissue, indicating:

the record established that the appellant erroneously considered he was securing protection commensurate with the invention disclosed in the original application. There is no evidence that appellant intentionally omitted or abandoned the claimed subject matter. We find that while appellant acted "deliberately" he did so in error. This error, in view of the facts of record, was an 'error without any deceptive intention' which entitles appellant to secure a reissue of his patent under the provisions of section 251.

Id. 367 F. 2d at 850, 151 U.S.P.Q. at 349 (emphasis in original).

Finally, the Wessler court also noted that a "deliberate" amendment to create a recapture type estoppel did not arise just because an appellant submitted a written amendment to further prosecution. "Deliberate" requires that the patentee knowingly,

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without error, made the amendment ("every paper formally submitted is generally done 'deliberately' and with the design of advancing the prosecution so as to secure a patent. . . . [T]hat is not what is meant by the term 'deliberate.'") In re Wesseler, 367 F. 2d at 848, 151 U.S.P.Q., at 347) The court reversed the rejection of the reissue claims that omitted a limitation added to an original claim where the prosecution record did not clearly show that the patentee had "deliberately" included the limitation to avoid prior art but that the patentee had intended to claim his invention commensurate in scope with what he disclosed.

A review of the prosecution history of the reissue patent shows that the Examiner rejected the claims under 35 U.S.C. § 112, but did not reject any of the claims based on prior art, and appellants never cancelled any subject matter in the claims in response to the rejection. Appellants emphasize the new category of invention covered by claims 28-32 all relate to a process which they never claimed in the reissue patent. The present reissue application presents claims of this type for the first time in the prosecution of this aspect of appellants' invention. The Examiner never rejected these claims in the reissue patent; appellants never amended them in the reissue patent, and never cancelled them from the reissue patent. Wesseler therefore controls the prosecution of the present application, freeing it from the recapture doctrine, and allowing appellants to claim the process without the silicon oxide precursor amendments of the reissue patent.

The Examiner nonetheless compares the process claims of the present reissue application to the composition claims presented in the reissue patent, and the amendments appellants made to those composition claims to respond to a 35 U.S.C. §

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112 first paragraph rejection. The Examiner cannot look to those amendments of the composition of matter claims in the reissue patent, (one statutory class of invention) and conclude appellants gave up rights to process claims in the reissue application (a different statutory class of invention) by the reissue patent prosecution since they comprise different statutory classes of inventions. Different statutory classes of invention are separate inventions. Studiengesellschaft Kohle mbH v. Northern Petrochemical Company, 784 F.2d 351, 228 U.S.P.Q. 837, 839 (Fed. Cir. 1986). They differ in that infringement of one type of claim doesn't carry any presumption of infringement of the other. Prosecution of the reissue patent composition claims therefore has no bearing on the process claims of the present application.

The Examiner, however, argues the instant claims contain subject matter broader than the reissue patent claims in that they do not include the "rate of deposition greater than 350Å/sec." recited in the reissue patent claims. Appellants point out the invention does not relate only to improving coating speeds, but to "producing an improved coating" that exhibits "specific properties such as, e.g., controlled refractive index, abrasion resistance, color enhancement, low emissivity, selective light filtration, and anti-iridescence" (Written description, col. 4, lines 16-18) The Examiner has not shown where in the disclosure appellants obtained these "improved coating" features by applying the coating at a rate of 350Å/sec., nor can he, since appellants obtain these advantages in producing the coating or film itself, and not by the method of improving production speeds.

Appellants never stated the process of obtaining the "improved coating" with controlled refractive index, abrasion resistance, color enhancement, low emissivity,

selective light filtration, and anti-iridescence depended on the deposition rates the Examiner employs in his rejection. The written description supports the appellants in this regard by describing the "invention . . . [as] a gaseous composition for producing an improved coating on glass . . ." (written description col. 4, lines 13 et seq.). Although this part of the written description describes a process for "producing" this coating on glass by a CVD rate greater than about 350Å/sec., this parameter only refers to one aspect of the invention. The Examiner has no basis to confine the appellants to a process of producing a coating at a rate greater than about 350Å/sec. when the written description clearly states appellants' invention relates to a process of producing an "improved coating." Accordingly, the Examiner's reference on page 3 of the June 4 Office Action to the statement in the written description that "the invention is made by CVD rates greater than about 350Å/sec." takes that aspect of the disclosure out of the context of the entire statement of the invention in column 4, lines 13 et seq., and a fair reading of this would show that "CVD rates greater than about 350Å/sec." relate only to one aspect of the invention and the process for producing the improved coating relates to another, i.e., a coating with controlled refractive index, abrasion resistance, color enhancement, low emissivity, selective light filtration, and anti-iridescence. Again, appellants obtain these advantages in producing the improved coating itself, and not by the method of improving production speeds.

The Examiner goes on to state:

Compositional limitations were added in response to Examiner's rejection of the claims as not enabled for the required deposition rates. Examiner's action specifically stated, "The prior art of record fails to teach or suggest a gaseous composition comprising the recited tin oxide precursor, silicon oxide precursor and accelerant selected from borates, phosphates [sic, phosphites] and water". The claims were

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amended to be limited to those specific materials in response to the rejection. (June 4, 2002 Office Action, p. 3, par. 1).

As to the first contention of the Examiner that appellants added limits to the composition in response to the Examiner's rejection, the Examiner implies that appellants amended the silicon oxide precursors, the tin oxide precursors and the accelerants in response to his rejection relative to the deposition rates. A review of the September 20, 1994 Office Action in the reissue patent and appellants' October 25, 1994 Response will show that the appellants did not do this, but only amended the silicon oxide precursors to obtain allowance. Appellants did not amend the tin oxide, organic phosphite and organic borate accelerants to obtain allowance, nor did the Examiner require these amendments for allowance.

In the September 20, 1994 Office Action in the reissue patent the Examiner rejected claims 1-10, 14-23, 25 and 26 under 35 U.S.C. § 112, first paragraph on the grounds that the disclosure only enabled "claims limited [to] compositions wherein the silicon oxide precursor is limited to that recited in claim 11." (September 20, 1994 Office Action, p. 2, par.1) (emphasis added). The Examiner concluded the rejection on page 2, last paragraph of the September 20, 1994 Office Action by indicating he would allow the claims if appellants rewrote them to overcome the rejection under 35 U.S.C. § 112 and include all of the limitations of claim 11 in the base claim and intervening claims. Appellants' October 25, 1994 Amendment in response to that Office Action cancelled claim 11 and inserted the "silicon oxide precursor . . . recited in claim 11" into the claims the Examiner rejected.

Only after the Examiner indicated allowability if the claims were amended to include the silicon oxide precursor recited in claim 11 did he make the statement on

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page 3 of the September 20, 1994 Office Action that "[t]he prior art of record fails to teach or suggest a gaseous composition comprising the recited tin oxide precursor, silicon oxide precursor and accelerant selected from borates, phosphites and water." Taking this quotation totally out of context, the Examiner then incorporated it into his June 4 Office Action to argue "[t]he claims were amended to be limited to those specific materials in response to the rejection." (June 4, 2002, Office Action, p. 3, par. 1). "Those specific materials" would include not only the silicon oxide precursors, but also the tin oxide precursors, and the organic phosphite and organic borate accelerants.

As to this second contention, the Examiner never indicated in the reissue patent he would allow the claims on the condition that the appellants also amend the tin oxide precursor and the accelerant selected from organic borates and organic phosphates. The foregoing analysis of the September 24, 1994 Office Action shows the Examiner's indication of allowable subject matter in the reissue patent only related to amending the silicon oxide precursor to conform to the claim 11 description of this material. The following analysis of the October 25, 1994 Response also shows that the amendments of the tin oxide precursors, and the organic phosphite and organic borate accelerants were not required for allowance, and were not "limited to those specific materials in response to the rejection." as the Examiner now contends. In fact, the Examiner never rejected these "specific materials."

Appellants in their October 25, 1994 Amendment, not only amended the claims to include the claim 11 definition of the precursors of silicon oxide, but also amended the description of the tin oxide precursors, the organic phosphites and organic borates, even though not required by the Examiner to obtain allowance. Specifically, appellants

added new independent claim 27 defining the tin oxide precursor with a generic formula and added claims 28 and 29 relating to a subgenus and a species of the precursor of the tin oxide. The Examiner did not require the generic formula which broadened the tin oxide precursors, or the species of tin oxide precursors for allowance, but he entered these amendments and allowed these claims.

The October 25, 1994 amendment also introduced generic formulas for the organic phosphite and organic borate accelerants of claim 6 and new claim 27, even though not required by the Examiner for allowance of the claims. The Examiner did not suggest these generic formulas which broadened the claims, but he nonetheless entered the amendments and allowed these claims. Claim 24 as originally presented related to a species of an organic phosphite whereas claim 25 as originally filed referred to these accelerants as boron and phosphorous esters. The Examiner did not have any objection to this terminology. New claims 28 and 29 referred to species of organic phosphites and organic borates even though the Examiner did not require an amendment to add these claims which he also allowed.

The foregoing clearly illustrates the Examiner only required one amendment for allowance, and that was for the silicon oxide precursor, which the appellants included in the composition claims of the reissue patent and which appellants also include in process claims 1-27 of the present reissue application.

Any amendments to the tin oxide precursors and the accelerants selected from organic phosphites and organic borates in the reissue patent do not introduce the recapture doctrine into the present application for at least two reasons. In the first instance, and most important, the appellants did not cancel any tin oxide precursor or

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accelerant selected from organic phosphites and organic borates from any of the claims in the reissue patent, and are not now trying to reintroduce cancelled material by way of this reissue application. In fact they did just the opposite when they amended on October 25, 1994 by adding broadening generic formulas for the tin oxide precursor, and the accelerants as well as species of these materials. Secondly they did not amend the tin oxide precursor, or the accelerants to address a 35 U.S.C. § 112 rejection, a prior art anticipation or obviousness rejection, or any other rejection by the Examiner.²

The reissue patent issued with composition claims for a tin oxide precursor and organic phosphite, organic borate, or water accelerants. The present reissue application now introduces process claims for the first time that include metal oxide precursors based on compounds not only of tin, but also germanium, titanium, aluminum, zirconium, zinc, indium, cadmium, hafnium, tungsten, vanadium, chromium, molybdenum, iridium, nickel, and tantalum, and the accelerants including phosphites, borates, water, alkyl phosphine, arsine and borane derivatives, PH₃, AsH₃, B₂H₆, NF₃, NO₂, and CO₂. The written description supports these compounds at Column 4, lines 13-52.

The Examiner has failed to demonstrate how the amendments to the tin oxide precursors and the organic phosphite and organic borate accelerants in the composition claims of the reissue patent preclude the appellants from claiming any of the foregoing

² In his October 29, 2002 Advisory Action, the Examiner states "that the M.P.E.P. defines surrendered subject matter as made in response to. . .[an] 'objection. . .'" (p.2, par. 2)(emphasis added). Apparently the Examiner took this position to address appellants' argument that the Examiner never rejected these claims, however, he did not cite the section of M.P.E.P. he relied on. In any event, appellants point out that the September 20, 1994 Office Action in the reissue patent never raised an objection to the substance of these claims, but only to the form by the Examiner's objection that these claims were "dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." (Reissue patent, September 20, 1994 Office Action, p. 2, par. 4)

metal oxide precursors and accelerants in the process claims of the reissue application. Specifically, appellants ask how does the amendment of the tin oxide precursor preclude them from precursors based on, for example germanium where the appellants never stated or indicated in the reissue patent that the invention did not include compounds based on germanium or the other metals listed in the written description at column 4 lines 21-26? The rejection also raises the same question regarding the accelerants.

The Examiner in the June 4 Office Action (p.3, par. 1) cites M.P.E.P. § 1412.01 (penultimate paragraph) as the basis for his argument that the "instant claims are not drawn to the same invention as that disclosed as being the invention in the original patent." That section of the Manual doesn't support the position he takes. It only states that if the "specification" describes a compound (e.g. "compound X") as unsuitable, and after the patent issues the appellants find they can use "compound X," the original disclosure of unsuitability precludes them from obtaining a reissue patent for this compound. The Examiner, however, has not pointed to anything in the written description of the reissue patent or its prosecution history that amounts to a statement by the appellants that they determined or found the metal oxide precursors and the accelerants now claimed in this reissue application unsuitable. Nor can he; the reissue patent, on the contrary, describes each of the presently claimed metal oxide precursors and accelerants as part of the invention. (Written description, col. 4, lines 13-52.)

The written description does describe one aspect of the invention as providing a process and composition for depositing a silicon oxide film at deposition rates greater than about 350Å/sec., and listed several silicon oxide precursor compounds found to

provide this deposition rate. (Written description, par. bridging cols. 2-3, and col. 3, first full par.). These compounds, however, only comprised the silicon oxide precursors, and not the metal oxide precursors and accelerants.

Appellants' statement about the silicon oxide precursors applied to the composition. Again, as pointed out above in this response, appellants indicated in their written description that the invention not only pertained to the composition, but also to a process for producing an "improved coating" or film. In the discussion of the invention in column 4, lines 13-18 of the written description, appellants separated the process of producing an "improved coating" from the composition and process of depositing the coating at a rate of 350Å/sec. The Examiner has not shown where in the disclosure appellants obtained these "improved coating" features by applying the coating at a rate of 350Å/sec., nor can he, since appellants obtain these advantages in producing the coating or film itself, and not by the method of improving production speeds.

The Claims do not Stand or Fall Together

Claims 28-32 stand rejected under 35 U.S.C. § 251 because appellants allegedly attempt to recapture the claimed subject matter in this reissue application that they surrendered to obtain allowance of the reissue patent. As demonstrated above, appellants, in the reissue patent, did not claim and then amend or abandon any of the inventions of the claims on appeal in order to obtain allowance of the reissue patent.

Even if the Board finds recapture only with regard to the species or subgeneric claims on appeal³ and not the generic claims⁴, such a rejection of the species or

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3 The species or subgeneric claims comprise claims 29, 30 and 32.

4 The generic claims comprise claims 28 and 31.

subgeneric claims does not carry over to the generic claims, since generic claims first presented in a reissue application comprise a different class of invention that is not affected by species or subgeneric claims in an earlier application. The Court of Appeals for the Federal Circuit addressed this in In re Doyle, 293 F. 3d, 1355, 63 U.S.P.Q. 2d 1161 (Fed. Cir. 2002), finding that failure to prosecute restricted species or subgeneric claims in a divisional application did not prevent the inventor from reissuing the base patent to claim the invention for the first time as a genus that dominated the restricted species or subgeneric claims.

The converse would also follow, i. e., if the Board found recapture only with regard to the genus claims on appeal, and not the species or subgeneric claims, the rejection of the generic claims does not carry over to the species or subgeneric claims, since species or subgeneric claims first presented in a reissue application comprise a different class of invention that is not affected by generic claims in an earlier application.

Offer in the Alternative to Dedicate Claims to the Public

If, despite the above arguments, the Board maintains that claims 28-32 can be rejected on the grounds that appellants have attempted to recapture subject matter that should have entered into the public domain by being previously abandoned in the prosecution of the reissue patent, then appellants, in the alternative traverse the "recapture" rejection by offering to dedicate back to the public, reissue claims 28-32 when and if granted to appellants in this reissue application, and when and if an interference is declared with Neuman et al. U.S. Patents Nos. 5,776,236 ("Neuman

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'236") and 5,559,387 ("Neuman '387"), and Athey et al. U.S. Patent No. 5,356,718 ("Athey"). Appellants, upon being awarded those claims in the interference, will put them back into the public domain by this dedication where they belong if recapture is a valid rejection and if appellants were in fact the first inventors and dedicated them to the public through abandonment.

Appellants point out that Neuman '236, Neuman '387, and Athey contain claims to substantially the same subject matter as appellants' claims 28-32. If the Examiner's contention is correct that the subject matter of these claims had been previously abandoned, and by implication dedicated to the public by appellants, then the issuance of these patents have in effect eliminated that so-called dedication, since these patents recaptured that subject matter from the public domain.

Neuman '236, Neuman '387, and Athey were based on patent applications that were either co-pending with the earlier filed reissue patent application or pending at the time the reissue patent issued, and an interference should have been declared between the reissue patent application or reissue patent and the Neuman '236, Neuman '387, and Athey applications or patents. Appellants are willing to provide a way to correct the recapture of subject matter caused by granting Neuman '236, Neuman '387, and Athey by offering to dedicate claims 28-32 to the public upon issuing them to appellants in a reissue patent, and by a declaration of interference between the present application and Neuman '236, Neuman '387, and Athey. When appellants prevail in the interference, a reissue patent containing these claims will be granted, and they will be obligated to dedicate them to the public because of their representation to make the dedication. This will also address the recapture of the subject matter of claims 28-32 that occurred by the

issuance of Neuman '236, Neuman '387, and Athey.

Conclusions

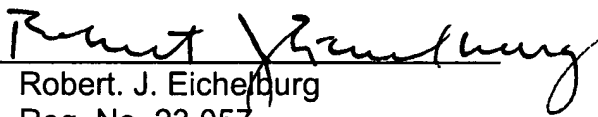
Appellants request the Board to overrule the Examiner in view of the foregoing remarks, and remand the application to the Examiner for issuance of a Notice of Allowance for all of the claims in this application. If the Board overrules the rejections and allows the pending claims, appellants request that the Board indicate its reasons for allowance, whether it was based upon appellants' arguments, or based upon appellants' alternative offer to dedicate claims 28-32 to the public upon having these claims awarded to them as a result of an interference with Neuman '236, Neuman '387, and Athey.

If entry of this Brief requires an extension of time pursuant to 37 C.F.R. §1.136 and payment of an extension fee or other fee, any of which this Brief fails to account for, appellants' attorneys request such an extension and payment of any fees due from their deposit account 06-0916.

Respectfully submitted,

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(9) Appendix

Claim 28. A process for forming an oxide composition comprising oxidizing a gaseous composition comprising at least one precursor of a metal oxide and an accelerant selected from the group consisting of organic phosphites, organic borates, and water so that when said precursor of a metal oxide is a tin oxide precursor, and said accelerant includes water, said composition also contains at least one of said organic phosphites or organic borates.

Claim 29 The process of claim 28 wherein at least one precursor for a metal oxide is selected from the group consisting of compounds of tin, germanium, titanium, aluminum, zirconium, zinc, indium, cadmium, hafnium, tungsten, vanadium, chromium, molybdenum, iridium, nickel and tantalum.

Claim 30. The process of claim 28 further comprising a precursor for a silicon oxide.

Claim 31. A process for forming an oxide composition comprising oxidizing a gaseous composition comprising a metal oxide precursor and an accelerant selected from the group consisting of phosphites, borates, water, alkyl phosphine, arsine and borane derivatives, PH_3 , AsH_3 , B_2H_6 , O_2 , N_2O , NF_3 , NO_2 and CO_2 so that when said precursor of a metal oxide is a tin oxide precursor, and said accelerant includes water, said composition also contains at least one of said phosphites or borates.

Claim 32. The process of claim 31 wherein the metal oxide precursor is a precursor of metal oxides selected from the group consisting of tin oxide, germanium oxide, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, indium oxide, cadmium oxide, hafnium oxide, tungsten oxide, vanadium oxide, chromium oxide, molybdenum oxide, iridium oxide, nickel oxide and tantalum oxide.

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